

Controlling Hazards

Once hazards are identified, there are various methods that can be used to protect workers. These are called hazard controls. Not all controls are equally effective. There is a “hierarchy” of possible solutions. The most effective solutions, at the top of the pyramid, are those that actually “Remove the Hazard.” The bottom two categories, “Policies and Procedures” and “Personal Protective Equipment,” represent solutions that only reduce or limit the worker’s exposure. Often a combination of methods is needed to get the best protection.



Remove the Hazard

The best way to protect workers from hazards is to remove hazards from the workplace altogether, or at least keep them away from workers. These methods are often called **engineering controls**. They directly address the hazard and do not depend on workers’ actions to be effective. Workers don’t have to wear special protective gear or take special precautions, because the hazard is gone.

Engineering controls include these methods:

- **Redesign the process.** For example:
 - Keep materials wet when grinding, sanding, using cutting tools, or sweeping to reduce dust levels.
 - Store supplies near the work, and use hand trucks, to reduce lifting and carrying.
 - Use mechanical hoists to move patients in nursing homes and homecare settings.
 - Replace gasoline motors with electric motors to eliminate exhaust fumes.

- **Substitute safer products for more hazardous ones.** For example, use cleaning chemicals that are less toxic.

- **Keep the hazard away from workers.** For example:

- Move noisy equipment away from workers.
- Use physical barriers between workers and the public in areas where cash is exchanged to deter robbery.
- Install guards on machines and near hot surfaces.
- Use floor mats in wet or slippery areas.



- **Use good ventilation.** This removes dust, fumes, etc., from the air that workers breathe.

- **Redesign equipment.** For example:

- Use smaller and lighter carts that are easier to move for stockroom items, hotel linens, etc.
- Use adjustable computer workstations that fit workers' bodies comfortably.
- Use retractable needles in nursing homes and homecare to avoid needlestick injuries.
- Replace old equipment with newer equipment that has better safety features.



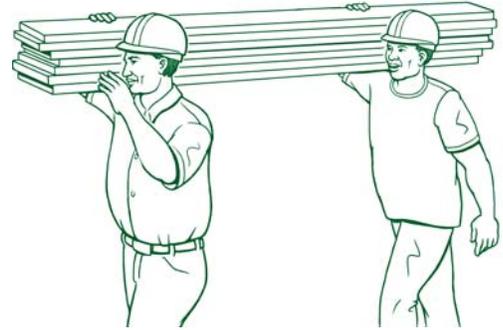
Improve Work Policies and Procedures

When the hazard cannot be eliminated altogether, another option is to set rules that will limit workers' exposure to the danger. These measures are often called **administrative controls**.

Administrative controls include:

- **Rotate workers** between a hazardous task and a non-hazardous task so that the length of exposure is reduced.
- **Increase the number of breaks** to reduce the time of exposure to hazards like heat, lifting, etc.

- **Change the work schedule.** For example, it may be possible to schedule tasks in very hot environments at night when temperatures are cooler.
- **Keep work areas free of clutter and debris.** Require good housekeeping to reduce the chance of accidents and fires, to protect tools and equipment, and to prevent slips, trips, and falls.
- **Improve personal hygiene facilities and practices.** Provide a way for workers to wash their hands and faces before eating and drinking.
- **Provide worker training programs.** Increase workers' ability to recognize and evaluate hazards, and to take action to protect themselves.
- **Assign enough people to do the job safely.**



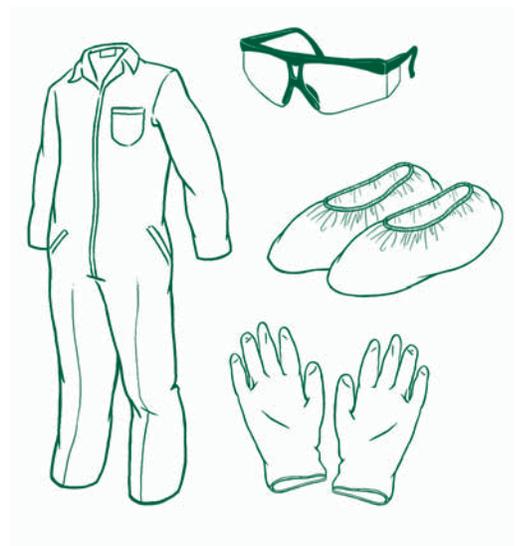
Provide Personal Protective Equipment

A third method of reducing hazards is to use **personal protective equipment (PPE)**. PPE is worn on the body and protects workers from exposure to a hazard. The most common types of PPE in small business are gloves, eye protection, earplugs, and safety shoes. In a few businesses, workers may need additional PPE like respirators, hard hats, and coveralls.

Wear PPE when other methods of hazard control aren't possible or don't give enough protection. Try to remove the hazard or change work procedures first.

PPE is usually considered less protective than the other methods because:

- It doesn't get rid of the hazard itself. It simply reduces the amount of exposure by placing a barrier between the hazard and the worker.
- Workers may not want to wear it because some types of PPE can be uncomfortable or hot. Some may restrict movement and make it hard to communicate.
- It has to fit properly to work properly.
- It has to be the right type for the particular hazard, such as the right glove for the chemical being used.
- Workers must be shown how to use it properly.



Use a Combination of Methods

Sometimes you may need a combination of methods to control a hazard. While engineering controls may be the most effective method, you also need to have training programs and good workplace policies to supplement them. There may also be situations where PPE is essential.